ABSTRACT

A single phase consisting of a $ThMn_{12}$ phase can be obtained by having the composition thereof represented by a general formula $R(Fe_{100-y-w}Co_wTi_y)_xSi_zA_v$ (in the general formula, R is at least one element selected from rare earth elements (here the rare earth elements signify a concept inclusive of Y), Nd accounts for 50 mol% or more of R, and A is N and/or C) in which the molar ratios in the general formula are such that $x = 10$ to 12.5, $y = (8.3 - 1.7 \times z)$ to 12.3, $z = 0.1$ to 2.3, $v = 0.1$ to 3 and $w = 0$ to 30, and the relation $(Fe + Co + Ti + Si)/R > 12$ is satisfied.